KVM SWITCH

BACKGROUND OF THE INVENTION

1. Field of the Invention:

The present invention relates to a KVM switch and, more particularly, to such a KVM switch, which enables the user to selectively switch one of a set of computers to a display by means of clicking selection from the screen of the display via a keyboard or mouse.

2. Description of the Related Art:

Following fast development of computer technology, a variety of high-speed computers have been developed for use to help working efficiency of people. In some cases, several computers may have to be linked for storing and/or processing a big amount of data. When several computers are used, a KVM switch may be necessary for control switching among the computers. However, conventional KVM switches for this purpose are commonly not convenient in use. When wishing to switch from one computer to another, the switching action must be achieved by means of operating the switches at the KVM switch or specific keys at the keyboard. However, different keyboards may have different definitions on the same keys. A conflict may occur when operating one specific key of a keyboard to switch the computers.

SUMMARY OF THE INVENTION

The present invention has been accomplished under the circumstances in view. It is the main object of the present invention to provide a KVM switch, which enables the user to selectively switch one of a set of computers to a display by means of operating a keyboard or mouse to click selection from the screen of the display.

According to one aspect of the present invention, the KVM switch comprises an electrically insulative housing, and a control circuit mounted inside the housing and adapted to receive a plurality of computers and computer peripheral apparatus including a keyboard, a mouse, and a display. The control circuit comprises a program adapted to selectively control output signal from one of the computers to the display subject to the operation of pre-set buttons of the keyboard and mouse been connected to the control circuit. According to another aspect of the present invention, the control circuit comprises: a microprocessor, which has a control program adapted to connect a keyboard, a mouse, and a plurality of computers; an OSD (ON SCREEN DISPLAY) control circuit connected to the microprocessor and adapted to select display picture subject to the program of the microprocessor; a filtering switching circuit connected to the OSD control circuit and a display and adapted to filter the picture not selected by the OSD

control circuit and to switch to the selected signal for enabling the selected signal to be displayed on the display connected thereto; a keyboard control circuit connected to the microprocessor and the computers being connected to the microprocessor to serve as an interface between the microprocessor and the connected computers and to examine and convert the output signal of the keyboard into a format readable to the microprocessor; a mouse control circuit connected to the microprocessor and the computers at the microprocessor to serve as an interface between the microprocessor and the connected computers and to examine and convert the output signal of the mouse into a format readable to the microprocessor; and a VGA control circuit connected to the filtering switching circuit the computers at the microprocessor to serve as an interface between the filtering switching circuit the connected computers and to examine and convert the output signal of the connected computers into a format readable to the filtering switching circuit.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an elevational view of a KVM switch according to the present invention.

FIG. 2 is a system block diagram of the present invention.

FIG. 3 shows an application example of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIGS. 1 and 2, a KVM switch in accordance with the present invention is shown comprising an electrically insulating housing **100**, and a control circuit **1** mounted inside the housing **100**.

The control circuit **1** comprises a microprocessor **11**, which has a control program adapted to connect a keyboard **12**, a mouse **13**, and at least two computers **14**, an OSD (ON SCREEN DISPLAY) control circuit **15** connected to the microprocessor **11** and adapted to select display picture subject to the program of the microprocessor **11**, a filtering switching circuit **16** connected to the OSD control circuit **15** and the display **17**. and adapted to filter the picture not selected by the OSD control circuit **15** and to switch to the selected signal for enabling the selected signal to be displayed on the display **17**, a keyboard control circuit **18** connected to the microprocessor **11** and the computers **14** to serve as an interface between the microprocessor **11** and the computers **14** and to examine and convert the output signal of the keyboard **12** into a format readable to the microprocessor **11**, a mouse control circuit **19** connected to the microprocessor **11** and the computers **14** to serve as an interface between the microprocessor **11** and the computers **14** and to examine and convert the output signal of the mouse **13** into a format readable to the microprocessor **11**, and a VGA control circuit **20** connected to the filtering switching circuit

16 and the computers `14 to serve as an interface between the filtering switching circuit 16 and the computers 14 and to examine and convert the output signal of the computers 14 into a format readable to the filtering switching circuit 16.

Based on the aforesaid combination, several computers 14 and other computer peripheral apparatus including a keyboard 12, a mouse 13, a display 17, and etc. are respectively connected to the housing 100 and controlled by the program set in the microprocessor 11, so that the user can operate pre-set keys of the keyboard 12, combination buttons of the mouse 13, or pre-set buttons 21 at the housing 100 to control the operation of the computers 14 individually subject to the operation of the program of the microprocessor 11.

When switched to the keyboard 12, the user can operate the keyboard 12 to control the computers 14 as follows:

Press [Left ctrl]+[Left ctrl] to select last computer;

Press [Right ctrl]+[Right ctrl] to select next computer

Press [F1]~[Fn] to directly select one specific computer;

Press [Scroll Lock]+[Scroll Lock] to enter auto-cruise mode;

Press [ESC] to escape from auto-cruise mode;

Press [win] to start/close mouse-to-computer selection function.

When switched to the mouse **13**, the user can directly use the left combination button **131** and the right combination button **132** to select the computers **14**.

Either switching to the keyboard **12** or the mouse **13**, the display **17** displays data signal from the controlled computer **14**, and at the same time the OSD control circuit **15** of the control circuit **1** converts the display picture of the display **17** properly. Therefore, the user can operate the mouse **13** to click switching selection from the picture on the display **17**, simplifying the control of the computers **14**.

A prototype of KVM switch has been constructed with the features of FIGS. 1~3. The KVM switch functions smoothly to provide all of the features discussed earlier.

Although a particular embodiment of the invention has been described in detail for purposes of illustration, various modifications and enhancements may be made without departing from the spirit and scope of the invention. Accordingly, the invention is not to be limited except as by the appended claims.